Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 11th May 2007

AFRICAN DESK
CLIMATE PREDICTION CENTER
National Centers for Environmental predictions
National Weather Service
NOAA
Camp Springs MD 20746

FORECAST DISCUSSION 14H00 EST 11th May 2007
Valid: 00Z 12th May 2007- 00Z 14th May 2007.

FLOW AT 200MB

At T+24 hrs, the general flow pattern over Southern Africa (South of the Equator) shown by the GFS, ECMWF and UK-MET models indicates a trough lying above southern Madagascar stretching into southeastern Mozambique, linked to a shallow trough over northwestern Namibia and associated with westerly wind up to 75 kt, causing convergence over these areas. There is a high pressure system cell lying above southwestern South Africa (31^oS 19^oE) ridging the southern parts of the sub continent. Two high pressure system cells, lying above northeastern Zambia (11^oS 31^oE) and to the northeast of Madagascar (11^oS 56^oE), are causing divergence over the rest of the sub continent.

At T+48 hrs, the trough which was lying above southern Madagascar stretching into southeastern Mozambique has shifted eastward weakening in amplitude, as the high pressure system cell which was above southwestern South Africa rapidly shifted to the south of Madagascar, hence subsidence. Another trough is lying above the southwestern parts of the subcontinent, causing convergence over western South Africa, southwestern Botswana and over Namibia. The rest of the sub continent is under divergence.

At T+72 hrs, the trough which was lying above the southwestern parts of the subcontinent has shifted to the southeast, causing convergence over southern Mozambique, northeastern South Africa and northeastern Botswana. Slight convergence can be seen to the eastern coast of Madagascar, due to shallow troughs. The three models show that the divergence prevails over the rest of the sub continent.

FLOW AT 500MB

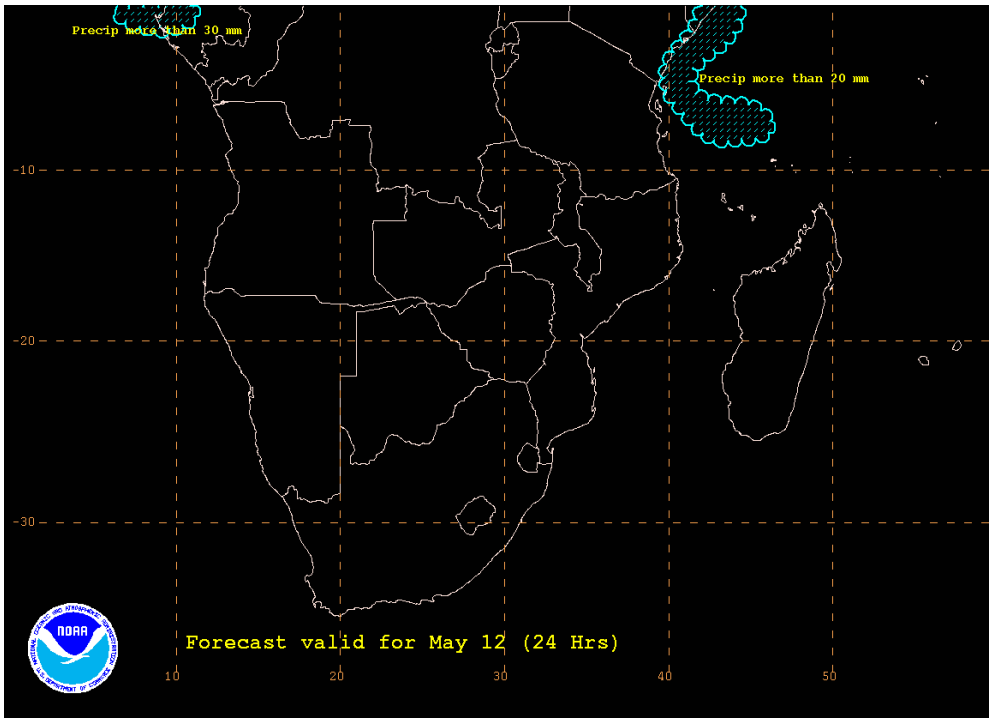
At T+24 hrs, the GFS models show a trough lying over central Madagascar stretching into central Mozambican Channel, causing convergence over these areas. Convergence is also seen over northwestern Namibia, due to a cut-off low. The St Helene high with two

cells, centered at 29°S 23°E and at 18°S 25°E is ridging the rest of the sub continent and causing onshore flow along the eastern coast of the sub continent.
At T+48 hrs, trough which was over central Madagascar has shifted northeastward, weakening in amplitude. The cut-off low which was lying over northwestern Namibia has filled up. Divergence over the rest of the sub continent is maintained.
At T+72 hrs, the trough which was lying over northern Madagascar has slightly shifted eastward, weakening in amplitude. There is a shallow trough over the southeastern coast of Mozambique, causing slight convergence over these areas. A trough is lying over the Atlantic Ocean, approaching the southwestern coast of the sub continent. The rest of the sub continent is under divergence.

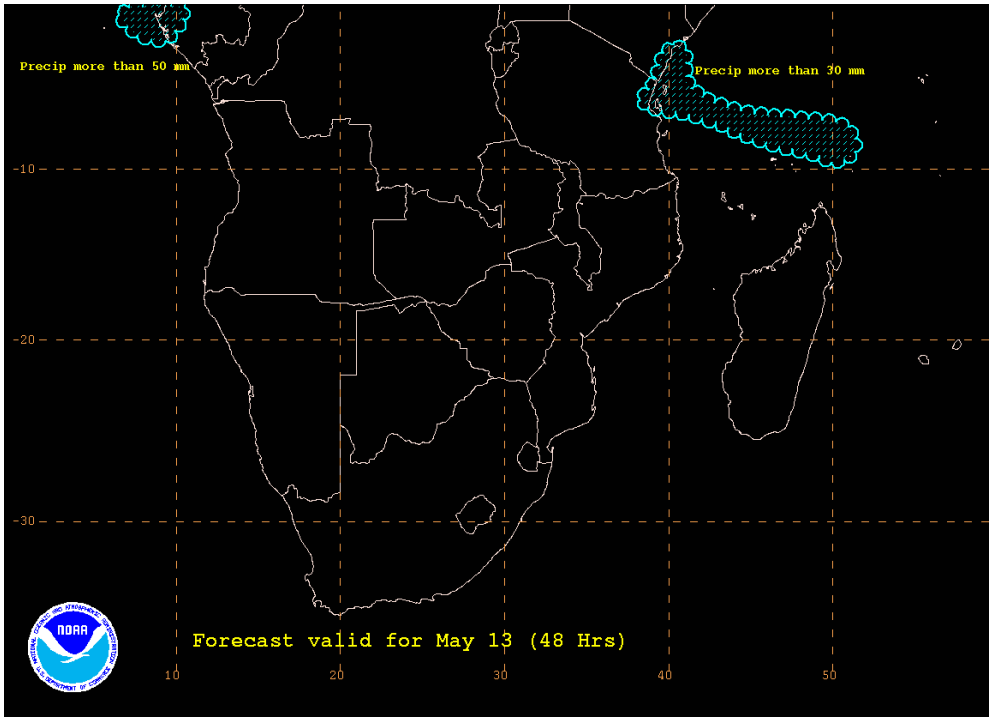
FLOW AT 850MB

At T+24 hrs, a southeasterly trough is causing convergence over areas which are to the north of the northern coast of Madagascar extending into southeastern coast of Kenya, extreme northeast of the coast of Tanzania, northern D.R. Congo and Gabon, thus isolated thundershowers and strong wind are expected over these areas. The sub tropical high pressure system lying over the northeastern South Africa / Mozambique border (22°S 31°E) is throwing a ridge into the rest of the sub continent, but causing onshore flow along the eastern coast of the sub continent (areas which are between 22^{o}S and 6^{o}S latitude).
At T+48 hrs, there is no significant change in the general flow pattern except that there is a trough lying over the Atlantic Ocean, approaching the southwestern coast of the sub continent.
At T+72 hrs, the trough which was over the Atlantic Ocean, approaching the southwestern coast of the sub continent has shifted eastward, causing convergence over western South Africa and southwestern Namibia. Convergence over southeastern coast of Kenya, extreme northeast of the coast of Tanzania, northern D.R. Congo and Gabon, prevails. The sub tropical high has shifted eastward maintaining the onshore flow regime along central and northern coast of Mozambique and also along the southeastern coast of Tanzania.
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over northeastern coast of Tanzania, to the north of the northern coast of Madagascar and southeastern coast of Kenya up to T+72 hrs, also over northwestern Gabon from T+36 hrs, denoting uncertainty in the intensity of precipitation over these areas.
The ensemble products show that the probability of 10 m wind speeds to exceed 20 KT over areas which are to the south of 37^{o}S latitude and to the northern coast of Madagascar is 45 to 85% at T+24 hrs, and drops at higher time leads.

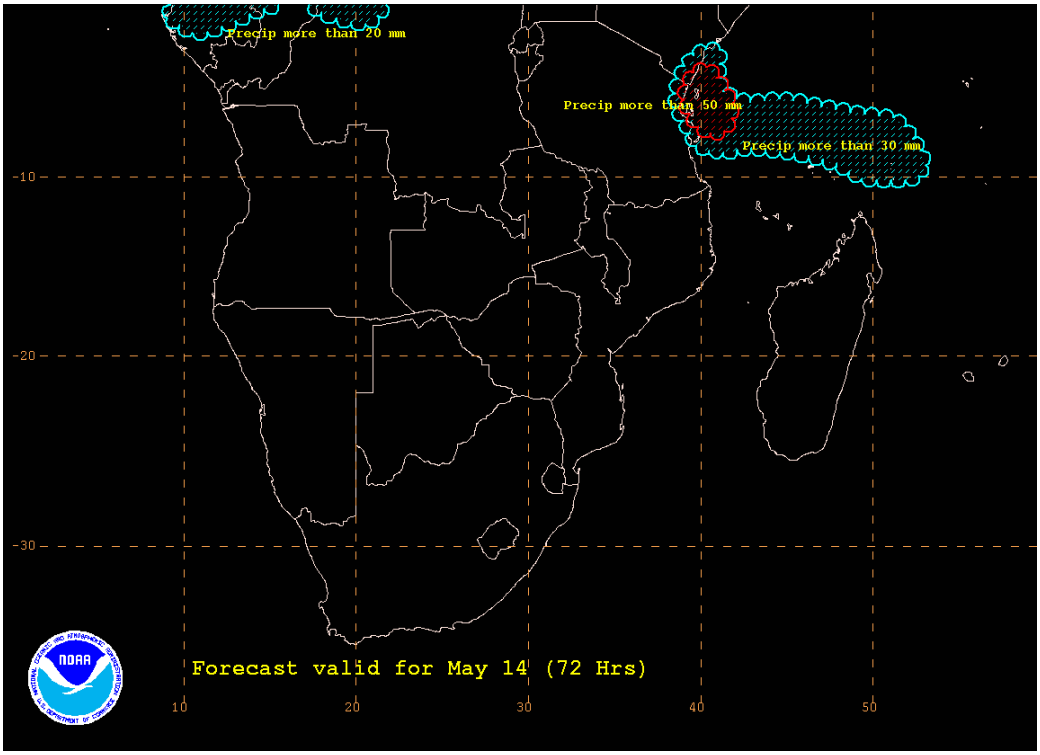
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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